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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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September 25, 1992

Donna R. Searcy, Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Attention: David H. Siehl, Room 644

RE: CC Docket No. 92-160
Comments of Pepper & Corazzini

Dear Ms. Searcy:

Transmitted herewith on behalf of Pepper & Corazzini ("P&C") is an original and four (4) paper copies of its Comments in the above-captioned docket.

Please direct any questions or correspondence concerning this submission to our office.

Respectfully submitted,


William J. Franklin

Enclosures

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SEP 25 1992

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

**Amendment of Parts 21, 22, 23,
and 25 of the Commission's Rules
to Require Reporting of Station
Frequency and Technical
Parameters for Registration by
the Commission with the
International Frequency
Registration Board**

To: The Commission

Pursuant to Sections 1.415 and 1.419 of the Commission's Rules, Pepper & Corazzini ("P&C") hereby files comments with respect to the Notice of Proposed Rulemaking, 7 FCC Rcd ____ (FCC 92-335, released July 30, 1992) ("NPRM") in the above-captioned proceeding. As set forth herein, P&C strongly supports the NPRM and urges its adoption with certain improvements specified herein.

P&C is a specialized communications law firm. Its attorneys and those of its direct predecessor have practiced before the Commission for more than 35 years. P&C represents clients and advises them with respect to FCC Rule Parts which are the subject of the NPRM. Accordingly, P&C has developed an expertise in the radio services which are the subject of this proceeding.

Further, P&C has an extensive technical background which might be of assistance here. P&C attorneys work with Commission and private-sector engineers on a daily basis. Certain P&C attorneys have engineering and computer science degrees and

experience. P&C uses its computers on a daily basis to evaluate and prepare Commission-required engineering showings and exhibits. Thus, the rules proposed herein will directly affect P&C and its clients.

OVERVIEW OF THE PROCEEDING

Stated generally, the NPRM proposes that applicants, permittees, and licensees under Parts 21, 22, 23, and 25 whose proposed or authorized facilities are within specified distances of Mexico, Russia, or Cuba, or are located in the Caribbean or the Pacific file their frequency assignments and specified technical parameters of operation on computer diskette. The Commission would develop a computer database from these submissions, and would use reports from this database to obtain international frequency protection from the International Frequency Registration Board ("IFRB").

P&C fully supports both the Commission's goal of improving international frequency protection for U.S. licensees and the general procedures by which the Commission has proposed to satisfy those goals. However, this proceeding has an importance beyond its specific proposals or policies.

THE COMMISSION SHOULD CONSIDER THE FUTURE APPLICABILITY OF STANDARDS AND PROCEDURES ADOPTED IN THIS PROCEEDING FOR DISKETTE SUBMISSION OF TECHNICAL INFORMATION.

This proceeding is the Commission's first broadly based effort at obtaining engineering data on computer diskettes from

applicants and licensees.^{1/} However, it is obvious -- both from the increasing general availability of personal computers today and from the Commission's own pronouncements -- that this proceeding is merely the leading edge of a Commission-wide trend toward the submission of computer-readable applications, e.g., on diskette.

For example, in its pending revision of Part 22 of the Commission's Rules, the Commission proposed:

a rule that permits applicants to submit the technical and administrative data contained in their applications on standard 3½ inch magnetic disks, formatted in MS-DOS 2.0 or higher. We seek comment on the proposed format, the type of file to be used, and the data field delimiter. * * * We emphasize, however, that any rules which the Commission adopts with respect to filings on magnetic disks would not become effective until the Commission can implement fully this process.^{2/}

Notably, the Commission further indicated that the complete application submissions envisioned by the proposed Part 22 rules would also be sufficient for IFRB notification.^{3/}

Accordingly, the Commission should reasonably assume that the rules and technical standards for diskette-based submission of engineering data adopted in this proceeding will serve as the model for rules governing a wide variety of diskette-based filings. Thus, P&C respectfully submits that the principles adopted herein should be carefully considered, both for the

^{1/} In the interexchange carrier price-cap proceeding, the Commission recently invited (but not required) the submission of economic studies and analyses on diskette for inclusion in a Commission-maintained computer bulletin-board system.

^{2/} Revision of Part 22, 7 FCC Rcd ____ (FCC 92-205, released June 12, 1992), Appx. A at 1 (Notice of Proposed Rulemaking) (CC Dkt.No. 92-115).

^{3/} NPRM at 4 n.6; Revision of Part 22, supra, Appx. A at 1.

current IFRB requirements and for their likely future applicability.

FOUR FUNDAMENTAL PRINCIPLES SHOULD GUIDE THE COMMISSION'S ADOPTION OF STANDARDS AND PROCEDURES FOR DISKETTE SUBMISSION OF TECHNICAL INFORMATION.

P&C has reviewed the standards for diskette submission of technical information which are Attachments 1 through 4 to the NPRM. Guided by that review, P&C has identified four fundamental principles which should guide the Commission's adoption of standards and procedures for diskette submission of technical information. In the following sections of these Comments, P&C will describe those principles and suggest changes to the proposed standards of Attachments 1 through 4 of the NPRM.

- 1. Technical Standards for Diskette Submission of IFRB Data Should Be Upward Compatible With Likely Requirements For the Submission of Complete Applications In the Same Radio Services.**

Starting from the premise that the rules and technical standards for diskette-based submission of engineering data adopted in this proceeding will serve as the model for rules governing a wide variety of diskette-based filings, P&C's first principle is obvious: Technical standards for diskette submission of IFRB data should be upward compatible with the likely requirements for the submission of complete applications in the specific radio services which are the subject of the NPRM.

Once the rules proposed by the NPRM are adopted, Commission licensees, consulting engineers, and communications law firms will be required to develop software and computerized procedures to prepare IFRB submissions. At the same time, the Commission's

technical staff will become familiar with the receipt and processing of IFRB diskettes. P&C's first principle requires that the collective body of expertise developed as a result of these activities not be wasted.^{4/}

Indeed, if the complete-application diskette procedures are substantially similar to the IFRB diskette procedures, the Commission may expedite its acceptance of complete applications on diskette.^{5/} This will increase the accuracy of the Commission's licensing databases while reducing its application-processing delays and personnel requirements. NPRM at 4 (§7).

2. Technical Standards for Diskette Submission of IFRB Data Should Be Consistent With Existing Paper-Application Filing Requirements and Procedures.

P&C's second principle is the converse of its first principle: Technical standards for diskette submission of IFRB data should be consistent with existing paper-application filing requirements and procedures. This principle seeks to assure that the applicants', engineers', and law firms' preparation of IFRB diskette submissions will mesh smoothly with their preparation of the paper applications as currently required.

^{4/} Of course, P&C also recognizes that the Commission will identify improvements in its diskette procedures as a result of the IFRB submissions. To assure the Commission has needed flexibility to implement these improvements, P&C's first IFRB requirement is stated as compatibility with the "likely" requirements for the submission of complete applications.

^{5/} P&C notes that the technical standards in Attachments 3 and 4 to the NPRM appear to contain enough detail (e.g., licensee name and address) to be used substantially as a complete application.

When applied to the Attachments to the NPRM, this principle requires several modifications or supplements to the Attachments:

- For Part 21, 22, and 23 services, the specified diskette file names for the IFRB data are now specified as "Call Sign" plus an extension, or "File Number" plus an extension. This naming convention does not account for the simultaneous filing of new applications and their IFRB diskettes, e.g., when neither the file number nor call sign is known. This naming convention also creates the problem of duplicate filenames; this is especially true for Part 22 systems which can have up to a hundred locations, each with multiple transmitters, all licensed under a single call sign.

P&C suggests that the Attachment 1 and 2 file naming conventions be extended to include "NEWSTATN", and to permit the specification of a two-digit location number as part of the filename.

- A single Part 22 application (FCC Form 401) can consist of multiple locations, each with multiple frequencies. The Part 22 file format (Attachment B to the NPRM) does not account for this quite-common situation.

P&C suggests that the Part 22 file format be extended, in a manner similar to the Attachment 3 and 4 technical standards, to permit multiple locations (per Schedule B of FCC Form 401) and frequencies per location (per Table MOB-2 of FCC Form 401).

- The proposed technical specifications do not describe the procedures to be followed with respect to (a) engineering amendments to pending applications and (b) modification applications for existing facilities, both of which often change the IFRB-required parameters of operation.

P&C suggests that the required data elements for each IFRB submission should include the date, file number, and call sign of any superseded IFRB submission.

These changes will facilitate the preparation and processing of IFRB diskettes.

3. Technical Standards for Diskette Submission of IFRB Data Should Reflect Current Microcomputer Technology and Practice.

Just as the second principle eases the task of preparing IFRB submissions by reconciling the diskette and paper-application preparation, P&C's third principle eases the task of prepar-

ing IFRB submissions by reconciling the diskette preparation requirements with current microcomputer technology and practice.

In general, P&C has concluded that the Commission's IFRB technical requirements now satisfy this requirement. Specifically, the Commission's specification of 3½" MS-DOS (2.0 or higher) diskettes and ASCII text files adopts a standard which virtually all modern microcomputers and software can produce.⁹ However, the NPRM does raise some minor technical issues:

- Attachments 1 through 4 of the NPRM identify the "Data Field Delimiter" as "ASCII character 13 (HOD)". This is what is commonly called the "carriage return" or "CR" character. However, MS-DOS ASCII files delimit each ASCII line with the carriage return/line feed ("CR/LF") character pair, e.g., ASCII characters 13 and 12 in that order. Further, nearly all MS-DOS software cannot correctly process data fields delimited with a naked carriage return.

P&C suggests that the Data Field Delimiter be defined as the carriage return/line feed character pair, and that each data element be expressly identified as being on a separate line in the ASCII text file.

- There are at present 2 software and hardware formats for a 3½" MS-DOS diskette (720 Kilobyte and 1.4 Megabyte) and a third standard (2 Megabyte) is just beginning reach commercial distribution. Depending on processor speed and age, some computers can only read and write the 720 KB diskettes, and others can read and write both 720 KB and 1.4 MB diskettes. The ANSI standard for 3½" diskettes requires that the lower right-hand corner of the diskette case be solid for 720 KB diskettes but have a square hole for 1.4 MB diskettes (marked "DS/HD"). However, some computers (e.g., the IBM PS/2 series) will read and write a 720 KB diskette (no identifying hole) at 1.4 MB; most others will not.

⁹ More than 90% of all existing microcomputers are MS-DOS compatible, and that percentage is increasing as older, obsolete microcomputers and special-purpose word processors are scrapped. The largest single category of non-MS-DOS machines is the Apple Macintosh family. Because of the overwhelming market share of MS-DOS machines and the IBM/Apple joint venture, the Macintosh family now has the hardware and software commercially available to produce MS-DOS diskettes. Thus, the Commission reasonably need not consider accepting diskettes in non-MS-DOS formats.

P&C suggests that the Commission identify specifically that it will accept 720 KB or 1.4 MB diskettes, provided that only HD diskettes (e.g., with the hole) are used for 1.4 MB diskette submissions.

- In addition to specifying the content of the diskettes, the Commission should specify a standard exterior label for each diskette.^{7/}

P&C suggests that each IFRB diskette contain an exterior label containing (a) the applicant's name, (b) month and year of filing, (c) all filenames contained on the diskette, and (d) FCC Rule Part under which the filing is made.

- It is the recommended practice to distribute data by writing all data files which will fit onto each diskette being distributed. Just as the Commission recognizes "fee multiple" application submissions, its IFRB standards should permit multiple, independent IFRB data submissions to be supplied by a single applicant or licensee on the same diskette. This would produce substantial cost savings, especially for the initial round of mass filings by existing applicants, permittees, and licensees.^{8/} Indeed, since each IFRB diskette is used only as the input medium to the Commission's international frequency-registration database, the number of data files per diskette should be irrelevant.

P&C suggests that the IFRB standards permit a single applicant or licensee to submit multiple data files on the same diskette, perhaps limited to a single Radio Service or Part of the Commission's Rules.

These changes also will facilitate the preparation and processing of IFRB diskettes.

4. **Technical Standards for Diskette Submission of IFRB Data Should Be Clear, Unambiguous, and Permit Independent Technical Verification of the Format of Any Diskette Submission.**

Finally, P&C also suggests that the Commission make its technical standards for the diskette submission of IFRB data be

^{7/} This requirement is the analog to the Commission's existing requirements for the uniform labeling envelopes of Part-22 microfiche submissions. See Section 22.6(d)(2) of the Commission's Rules.

^{8/} See NPRM at 4 (¶7).

clear and unambiguous. This can be achieved through a variety of methods, i.e., providing more detail in the Attachment 1 through 4 standards; releasing listings or diskettes of acceptable sample IFRB data files; or by working with a neutral standards body (e.g., ANSI, EIA, IEEE, FCBA) to develop a MS-DOS program to measure the compliance of any proposed IFRB data file.^{2/}

Here are examples of areas in Attachments 1 through 4 in which more specificity is needed:

- The Attachments imply, but do not state, that the file format is one data element per line, with missing data elements identified by a blank line. Similarly, the Attachments imply that each line contains only the specified data, and is not preceded by its "Mnemonic".
- For each numeric data element, the Attachments need to state the units in which the data should be represented. Are heights in feet or meters? Are powers specified as ERP or EIRP and in watts, dBk, dBm, or some other dB-referenced system? Are angles in degrees or radians? Are distances in miles or kilometers?
- In Attachments 1 and 2, some required data elements fail to provide enough information to tell an applicant how to respond. These are the following:

| <u>Attachment</u> | <u>Data Element</u> | <u>Mnemonic</u> | <u>Area of Concern</u> |
|-------------------|---------------------|-----------------|----------------------------------|
| 1 | Class of Station | STA01 | Where is Appendix Z? |
| 1 | Nature of Service | SER01 | Where is Appendix Z? |
| 1 | Class of Operation | COO01 | What's A, B, C mean? |
| 1 | Grant date | GRD01 | What about pending applications? |
| 1 | Radius | RAD01 | Radius of what? |
| 2 | Class of Station | STA01 | Where is Appendix Z? |
| 2 | Nature of Service | SER01 | Where is Appendix Z? |
| 2 | Class of Operation | COO01 | What's A, B, C mean? |
| 2 | Grant date | GRD01 | What about pending applications? |

^{2/} P&C envisions that this compliance program would become generally available to permit pre-filing verification of a proposed IFRB submission. If IFRB filers can assure that their data file submissions are in the correct format, the Commission's need to return or correct improperly prepared data files would be substantially reduced.

| | | | |
|---|---------------------|-------|--|
| 2 | Emission Designator | EMS01 | This normally is not specified for Part-22 applications or licenses |
| 2 | Reg.Hrs of Operat'n | RHO01 | Needs an example, especially for continuous operation |
| 2 | Maximum Gain | MGN01 | If Radiated Power (PWR01) is required, when would you ever specify this? |
| 2 | Radius | RAD01 | Radius of what? |

Of course, the multiple station/multiple frequency problem (discussed in connection with principle 2 above) and the ASCII file-format problem (discussed in connection with principle 3 above) also need to be resolved to satisfy P&C's fourth principle.

CONCLUSION

Accordingly, the law firm of Pepper & Corazzini respectfully requests that the Commission adopt the rules proposed in the NPRM subject to the four principles described above. The Commission's consideration and resolution of the specific technical issues discussed herein should facilitate the preparation, filing, and processing of IFRB diskettes by all parties and the Commission.

Respectfully Submitted,

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